

REMARKS

Applicants cancel claims 1, 4, 7, 9 and add new claims 26 and 27. Claims 2-3, 5-6, 8, and 10-27 are pending in the present application. Applicants amend claims 2, 3, 8, and 10 to independent form incorporating all limitations of their respective base claims and any intervening claims, with further clarification of recited features. Applicants amend claims 5, 20, and 24 to depend from claim 8; add new dependent claims 26 and 27, which incorporate the recited limitations of claims 5 and 6, respectively, to depend from claim 10; and amend claims 11-15 and 25 to depend from claim 10. No new matter has been added.

Claims 1-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,764,637 to Nishihara in view of U.S. Patent No. 6,529,510 to Lee. Applicants cancel claims 1, 4, 7, 9, and respectfully traverse the rejection of the remaining claims.

In an Advisory Action dated October 14, 2005, the Examiner refused entry of Applicants' claim amendments filed on September 20, 2005 because they allegedly did not place the application in better form for appeal. In response, Applicants incorporate additional amendment language to the September 20, 2005 claim amendments in a good faith effort to further clarify the recitation of the claimed invention.

As discussed before, Nishihara discloses an STM/ATM converter for converting time slot data in STM frames to ATM cells (see, e.g., abstract and FIG. 3 of Nishihara). In this capacity, the STM/ATM converter of Nishihara performs one-way conversion to convert STM data to ATM data. The Examiner acknowledged that Nishihara does not disclose "a frame/cell compatible type exchange capable of both outputting input frame relay signals as ATM cell

signals and outputting input ATM cell signals as frame relay signals, reversibly,” and relied upon Lee to disclose a two-way conversion feature. Page 3, lines 5-8 of the Office Action.

Lee discloses an ATM switching apparatus that is able to convert ATM cells to trunk data for communication within a TDM network (see, e.g., abstract of Lee). The device of Lee operates to convert trunk data to ATM cells and to convert ATM cells to trunk data (see, e.g., column 1, lines 41 – 51 of Lee).

Although Nishihara describes converting STM data to ATM data and Lee describes converting trunk data to ATM cells and ATM cells to trunk data, each of Nishihara and Lee describe a conversion apparatus with external connections that are designated and connected to communication networks of predetermined types. As such, the communication type for each external connection of each conversion apparatus is known according to the communication network with which it interconnects. Therefore, neither Nishihara nor Lee describe, or even suggest, altering the communication mode of an exchange in response to a detection unit detecting the communication type (e.g., frames or cells) at an external connection. In other words, the apparatuses described in both Nishihara and Lee are rigid converters that convert between predetermined communication types of their external connections. As such, even assuming, arguendo, that it would be obvious to one skilled in the art to combine Nishihara and Lee, the combination would, at most, describe a two-way converter (e.g., ATM-to-trunk from connection A to connection B and trunk-to-ATM back from connection B to connection A) with a series of buffers. There is no teaching or suggestion in either reference of dynamically altering the communication mode (e.g., frames or cells) of an exchange.

In the Advisory Action, the Examiner, once again, relied upon a “virtual path identifier discrimination unit” described in Nishihara as alleged disclosure of a frame/cell detection unit

and the feature of detecting whether an input signal comprises frames or cells. The cited portions of Nishihara, col. 2, lines 46-49 and 53-57, merely describe a “virtual path identifier discrimination unit” for converting received STM frames into ATM cells by extracting and outputting a virtual path identifier (VPI) number corresponding to a respective cell buffer queue where data from the received STM frames is assembled into ATM cells. Therefore, the “virtual path identifier discrimination unit” does not detect whether a signal comprises STM frames or ATM cells, it merely extracts VPI numbers from data in STM frames to convert the data into ATM cells. And the references as relied upon by the Examiner—and specifically those portions (col. 2, lines 46-49 and 53-57) of Nishihara—do not disclose or suggest detecting whether a signal input “is comprised of frames or cells,” let alone identifying whether an opposing exchange operates for frames or for cells, as recited in claims 2 and 3.

With respect to claim 2 specifically, the Examiner relied upon the use of predetermined exchange information described in Nishihara as disclosure of predetermined restriction on an incoming signal and a predetermined transfer order in a cell buffer. As described above, neither Nishihara nor Lee describe, or even suggest, altering the communication mode of an exchange. Applicants, therefore, respectfully submit that even assuming, arguendo, that it would have been obvious to combine Nishihara and Lee in the manner proposed by the Examiner, the combination would still fail to teach or suggest,

“whether an opposing exchange or an opposing terminal of an other party of communication operates for frames or operates for cells is registered on said selected exchange side in advance as office data, and
the selected exchange is operated as an exchange operating for frames or an exchange operating for cells according to the office data,” as recited in claim 2. (Emphasis added)

In the Examiner's Advisory Action of October 14, 2005, the Examiner maintained that the rejected claims still did not recite the distinguishing features of the claimed invention with enough specificity. In particular, the Examiner maintained that the claims still read on the opposite STM and ATM ends of the system described in Nishihara. Applicants, therefore, further amend the claims to recite, in part, as follows,

“A method for switching communication modes for shifting an exchange from a frame relay exchange having a packet exchange processing unit to an ATM exchange in a communication system having a plurality of exchanges each accommodating a plurality of terminals and including a frame relay exchange having a packet exchange processing unit and having a network for connecting the plurality of exchanges to each other in order to transfer data among said plurality of terminals,
...
a second step of operating said selected exchange as a frame/cell compatible type exchange capable of operating for both outputting input frame relay signals for said frame relay exchange as ATM cell signals and outputting input ATM cell signals as frame relay signals for said frame relay exchange, reversibly...”
(Emphasis added)

The one-way STM-to-ATM converter described in Nishihara and the TDM/ATM interface described in Lee fail to meet the above-cited features recited in the amended claims. Accordingly, Applicants respectfully submit that the combination of Nishihara and Lee, even assuming such a combination would have been obvious to one skilled in the art, would fail to teach or suggest,

“shifting an exchange from a frame relay exchange having a packet exchange processing unit to an ATM exchange
...
a first step of selecting any one exchange among said plurality of exchanges,
a second step of operating said selected exchange as a frame/cell compatible type exchange capable of operating for both outputting input frame relay signals for said frame relay exchange as ATM cell signals and outputting input ATM cell signals as frame relay signals for said frame relay exchange

...
wherein, in said second step,
whether an opposing exchange or an opposing terminal of an other party of communication operates for frames or operates for cells is registered on said selected exchange side in advance as office data, and
the selected exchange is operated as an exchange operating for frames or an exchange operating for cells according to the office data,” as recited in claim 2. (Emphasis added)

Since both Nishihara and Lee describe their respective converters as having fixed sides for their respective network types, such converters would not include any registration on whether an opposing exchange or terminal of an other party would operate for frames or would operate for cells.

Applicants, therefore, respectfully submit that claim 2 is patentable over Nishihara and Lee, individually and in combination, for at least the above-stated reasons.

Correspondingly, with respect to claim 3, Applicants submit that even assuming, arguendo, that it would have been obvious to combine Nishihara and Lee in the manner proposed by the Examiner, the combination would still fail to teach or suggest,

“shifting an exchange from a frame relay exchange having a packet exchange processing unit to an ATM exchange

...
whether an opposing exchange or an opposing terminal of another party of communication operates for frames or operates for cells is automatically identified in said selected exchange, and
the selected exchange is operated as an exchange operating for frames or an exchange operating for cells according to the result of the identification,” as recited in claim 3. (Emphasis added)

Applicants, therefore, respectfully submit that claim 3 is patentable over Nishihara and Lee, individually and in combination, for at least the above-stated reasons.

Claim 8 includes limitations similar to those of claim 2 cited above. Thus, even assuming, arguendo, that it would have been obvious to combine Nishihara and Lee in the manner proposed by the Examiner, the combination would still fail to teach or suggest,

“a frame relay exchange having a packet exchange processing unit

...

an ATM side bus and a frame relay side bus provided in parallel,

...

a frame/cell compatibility function unit inserted in said ATM side bus, said frame/cell compatibility function unit being capable of both outputting input frame relay signals for said frame relay exchange as ATM cell signals and outputting input ATM cell signals as frame relay signals for said frame relay exchange,

said frame/cell switch unit switches alternatively between said ATM side bus and frame side bus in accordance with an instruction from the outside, and

said instruction is given according to office data registered in advance,” as recited in claim 8. (Emphasis added)

Applicants, therefore, respectfully submit that claim 8, together with claims 5, 6, 20, and 24 dependent therefrom, is patentable over the cited prior art references for at least the above-stated reasons.

Claim 10 includes limitations similar to those of claim 8. The Examiner further cited descriptions of parallel buffers in Nishihara and parallel trunks in Lee as disclosure of the features recited in claim 10. Applicants respectfully submit that neither reference suggests altering the described buffers or trunks into the claimed features of “a pair of ... frame/cell switch units formed at the two end portions of said ATM side bus and frame side bus provided in parallel,” and that the Examiner exercised improper hindsight in altering the references to fit the claimed features.

In the Advisory Action, the Examiner, once again, relied upon a “virtual path identifier discrimination unit” described in Nishihara as alleged disclosure of the claimed frame/cell

detection unit. Again, as described above, the cited portions of Nishihara, col. 2, lines 46-49 and 53-57, merely describe a “virtual path identifier discrimination unit” for converting received STM frames into ATM cells by outputting a virtual path identifier number corresponding to a respective cell buffer queue where data from the received STM frames is assembled into ATM cells. Therefore, even assuming, arguendo, that it would have been obvious to combine Nishihara and Lee in the manner proposed by the Examiner, the combination would still fail to teach or suggest,

“an ATM side bus and a frame relay side bus provided in parallel,

...
said frame/cell switch unit switches alternatively between said ATM side bus and frame side bus in accordance with an instruction from the outside,

said exchange further provided with:

a frame/cell detection unit for detecting whether a signal input from the outside is comprised of frames or cells,

said instruction being created in accordance with the result of detection by this frame/cell detection unit,

a pair of said frame/cell switch units formed at the two end portions of said ATM side bus and frame side bus provided in parallel and

a switch control unit for receiving as input the result of detection by said frame/cell detection unit and controlling said pair of interlocked frame/cell switch units,” as recited in claim 10.
(Emphasis added)

Accordingly, applicants respectfully submit that claim 10, together with claims 11-19, 21-23, and 25-27 dependent therefrom, is patentable over the cited prior art references for at least the above-stated reasons.

Statements appearing above in respect to the disclosures in the cited references represent the present opinions of the undersigned attorney and, in the event that the Examiner disagrees

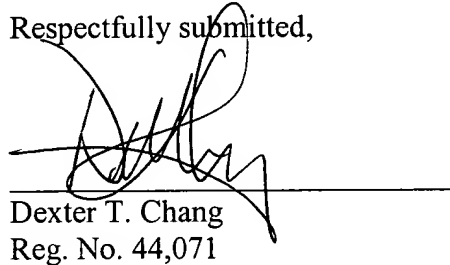
with any of such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the respective reference providing the basis for a contrary view.

The Examiner has made of record, but not applied, additional U.S. patents. Applicants appreciate the Examiner's implicit finding that these references, whether considered alone or in combination with others, do not render the claims of the present application unpatentable.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



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